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IS 4340 (1967): Needle bar links for sewing machines for household purposes [MED 29: Sewing Machines]



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“Knowledge is such a treasure which cannot be stolen”

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IS : 4340 - 1967

Indian Standard

SPECIFICATION FOR
NEEDLE BAR LINKS FOR SEWING MACHINES
FOR HOUSEHOLD PURPOSES

UDC 687.053.244



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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 1

January 1968

AMENDMENT NO. 1 OCTOBER 1968
TO
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BAR LINKS FOR SEWING MACHINES FOR
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Corrigendum

(*Page 6, Table 2, fifth column*) — Substitute the following for the existing entries:

D

15.554

13.005

(EDC 34)

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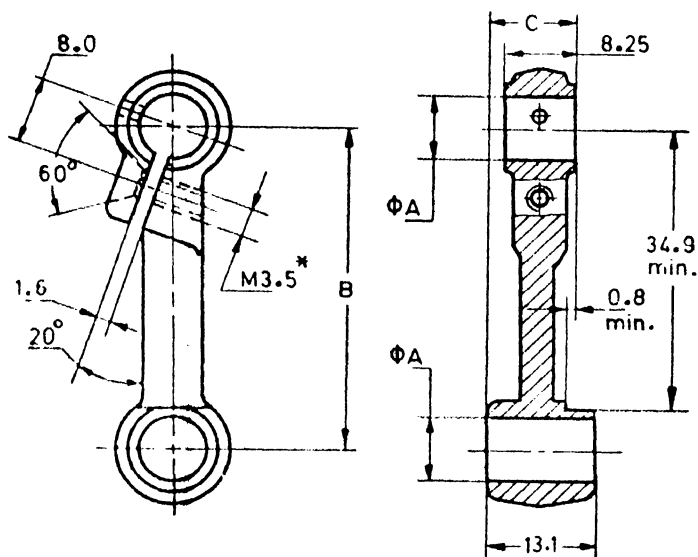
Alteration

(Page 6, Table 2) — Substitute the following for the existing table:

TABLE 2 DIMENSIONS FOR NEEDLE BAR LINK, TYPE B

(Clause 5.1)

All dimensions in millimetres.



	<i>A</i>	<i>B</i>	<i>C</i>
<i>Min</i>	7.938	39.50	10.64
<i>Max</i>	7.951	39.65	10.85

*4-B. A. Class—2B medium fit threads may also be employed till the complete changeover to metric system is effective.

(EDC 34)

Indian Standard

SPECIFICATION FOR NEEDLE BAR LINKS FOR SEWING MACHINES FOR HOUSEHOLD PURPOSES

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(Continued on page 2)

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Indian Standard

SPECIFICATION FOR NEEDLE BAR LINKS FOR SEWING MACHINES FOR HOUSEHOLD PURPOSES

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 19 October 1967, after the draft finalized by the Sewing Machines Sectional Committee had been approved by the Mechanical Engineering Division Council.

0.2 This standard covers the requirements for needle bar links for sewing machines, and is intended to assist in regulating the quality of indigenous needle bar links. This standard is one of the series of Indian Standards on sewing machines and their components.

0.3 Non-metric threads have also been specified as an interim measure till the complete changeover to metric system takes place. The manufacturers have agreed to adopt ISO metric screw threads as early as possible.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS: 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard specifies the requirements for two types of needle bar links for sewing machines for household purposes.

1.1.1 This standard does not deal with needle bar links used in industrial and special purpose sewing machines.

2. NOMENCLATURE

2.1 For the purpose of this standard, the nomenclature as given in Fig. 1 shall apply.

*Rules for rounding off numerical values (*revised*).

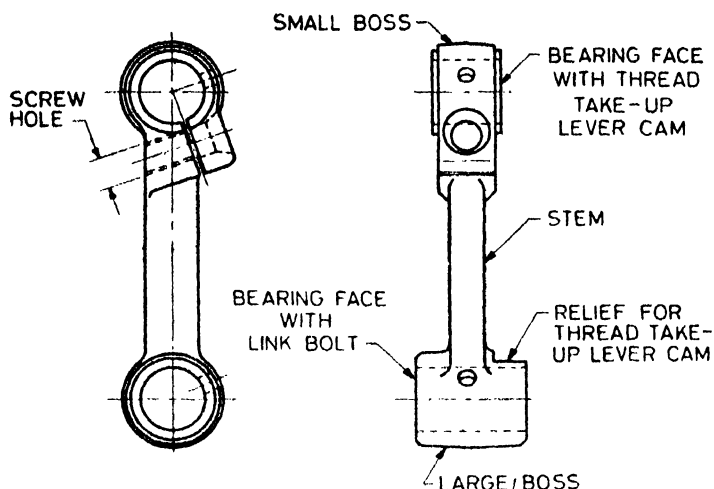


FIG. 1 NOMENCLATURE FOR NEEDLE BAR LINKS

3. MATERIAL

3.1 The needle bar links shall be forged from any suitable steel, such as C20 or C40 of Schedule II of IS : 1570-1961* or they shall be manufactured from grey iron castings conforming to grade 20 of IS : 210-1962†.

4. HARDNESS

4.1 The bearing faces of needle bar links forged from steel shall be case-hardened to a depth of 0.6 mm to attain a hardness within the range of 600 to 700 *HV* (see IS : 1501-1959‡). The needle bar links manufactured from grey iron castings shall have a hardness of 190 to 210 *HB* (see 1789-1961§).

4.2 The stem of needle bar link forged from steel shall be kept soft with a maximum hardness value of 300 *HV* (see IS : 1501-1959‡).

5. DIMENSIONS

5.1 The main dimensions of needle bar links shall be as given in Tables 1 and 2.

*Schedules for wrought steels for general engineering purposes.

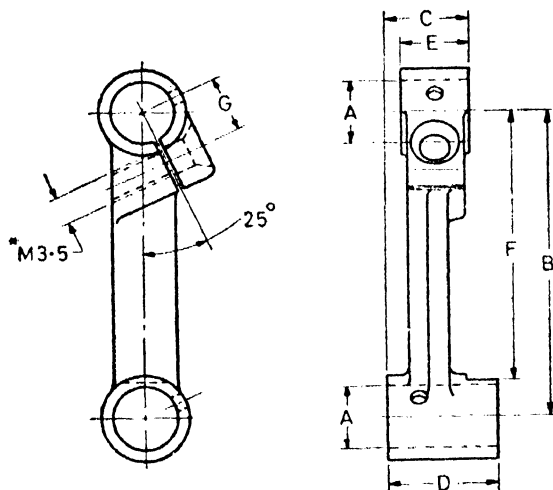
†Specification for grey iron castings (*revised*).

‡Method for Vickers hardness test for steel.

§Method for Brinell hardness test for grey cast iron.

TABLE 1 DIMENSIONS FOR NEEDLE BAR LINK, TYPE A
(Clause 5.1)

All dimensions in millimetres.



	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>	<i>G</i>
<i>Max</i>	7.948	39.45	10.60	14.00	8.25	34.45	7.2
<i>Min</i>	7.933	39.35	10.55	13.95	8.15	34.35	6.8

*9/64" × 40 TPI threads may also be employed till the complete changeover to metric system is effective.

6. TOLERANCES

6.1 The error in parallelism of the axes of the main holes of the needle bar link shall be within 0.2 mm per 100 mm.

6.2 The error in parallelism of the bearing faces of the bosses of needle bar link shall be within 0.2 mm per 100 mm.

6.3 The error in the squareness of the bearing faces of the bosses with respect to the main holes shall not exceed 0.2 mm per 100 mm.

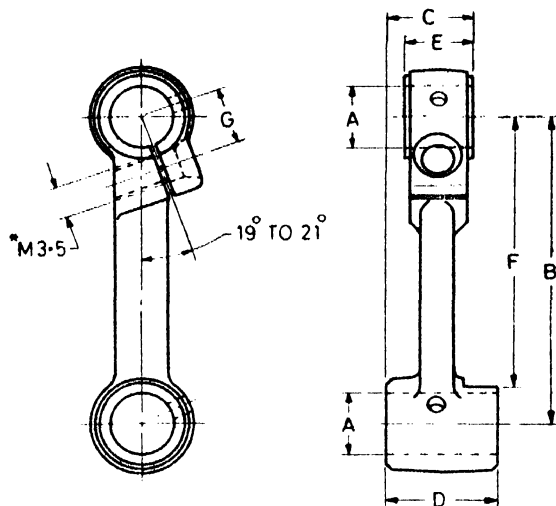
7. WORKMANSHIP AND FINISH

7.1 The main holes of needle bar link shall be precision ground to

TABLE 2 DIMENSIONS FOR NEEDLE BAR LINK, TYPE B

(Clause 5.1)

All dimensions in millimetres.



	A	B	C	D	E	F	G
Max	7.951	39.649	10.846	15.545	10.668	35.179	8.077
Min	7.938	39.497	10.643	10.005	8.128	34.925	7.823

*4BA Class 2B medium fit threads may also be employed till the complete changoover to metric system is effective.

attain a minimum surface finish value of $Ra\ 0.4\ \mu m$ (see IS : 3073-1967*).

7.2 The bearing faces of the bosses of needle bar link shall be machined to a fine finish without any line mark.

7.3 The components shall be chemically blackened or given any other adequate surface treatment to prevent rusting.

7.4 The needle bar links shall be well finished without any crack, burr, rust and black mark on any bearing diameter.

8. MARKING

8.1 The needle bar links shall be marked with the manufacturer's name or trade-mark.

*Assessment of surface roughness.

8.1.1 The needle bar links may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act, and the Rules and Regulations made thereunder. Presence of this mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control during production. This system, which is devised and supervised by ISI and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by ISI for conformity to the standard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

9. PACKING

9.1 Each needle bar link shall be given a suitable anti-rust coating or wrapped in vapour phase inhibitor paper (commonly known as VPI paper). The wrapped needle bar links shall be securely packed in cardboard cartons in accordance with the best prevalent trade practice. Each carton shall bear the manufacturer's name or trade-mark, the type and description of contents.

9.1.1 The cartons may also be marked with the ISI Certification Mark (*see Note under 8.1.1*).

10. SAMPLING

10.1 Unless otherwise agreed to between the supplier and the purchaser sampling plan as given in Appendix A shall be followed. For further information reference may be made to IS : 2500 (Part I)-1963*.

APPENDIX A

(Clause 10.1)

SCALE OF SAMPLING AND CRITERIA FOR CONFORMITY

A-1. SCALE OF SAMPLING

A-1.1 Lot — In any consignment, all the needle bar links of the same type and manufactured from the same material under essentially

*Sampling inspection tables: Part I Inspection by attributes and by count of defects.

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similar conditions of manufacture shall be grouped together to constitute a lot.

A-1.2 For ascertaining the conformity of the lot to the requirements of the specification, tests shall be carried out for each lot separately. The number of needle bar links to be selected at random for this purpose shall be in accordance with col 1 and 2 of Table 3.

**TABLE 3 SCALE OF SAMPLING AND PERMISSIBLE
NUMBER OF DEFECTIVES**

(Clauses A-1.2, A-1.4, A-2.1 and A-2.2)

NO. OF NEEDLE BAR LINKS IN THE LOT	FOR DIMENSIONS, TOLERANCES, AND WORKMANSHIP AND FINISH		SAMPLE SIZE FOR HARDNESS
	Sample Size	Permissible No. of Defectives*	
<i>N</i> (1)	<i>n</i> (2)	(3)	(4)
Up to 15	5	0	2
16 „ 40	8	0	3
41 „ 110	13	0	3
111 „ 300	20	1	5
301 „ 500	32	1	6
501 „ 800	50	2	8
801 „ 1 300	80	3	10
1 301 and above	125	5	15

*This ensures that lots containing one and a half percent or less defectives will be accepted most of the time.

A-1.3 If the needle bar links are packed individually, in order to ensure the randomness of selection, random number tables shall be used. In case such tables are not available the following procedure may be adopted:

‘ Starting from any needle bar link in the lot, count them in one order as 1, 2, 3,....., up to *r* and so on, where *r* is the integral part of N/n (*N* being the lot size and *n* the sample size). Each needle bar link thus counted shall be selected to constitute the sample. ’

A-1.4 If the needle bar links are packed in different cartons, a suitable number of cartons (not less than 20 percent of the total in the lot subject to a minimum of 2) shall be chosen at random. From each of the cartons so chosen, an approximately equal number of needle bar

links shall be picked up from its different parts so as to obtain the required number of needle bar links specified in col 1 and 2 of Table 3.

A-2. NUMBER OF TESTS AND CRITERIA FOR CONFORMITY

A-2.1 The needle bar links selected according to **A-1.3** or **A-1.4** shall be examined for dimensions (*see 5*), tolerances (*see 6*) workmanship and finish (*see 7*). If the number of needle bar links failing to meet one or more of the requirements mentioned above is less than or equal to the permissible number of defectives given in col 3 of Table 3, the lot shall be declared as conforming to the requirements of these characteristics.

A-2.2 In the case of those lots which have been found satisfactory according to **A-2.1**, a number of needle bar links equal to the sample size indicated in col 4 of Table 3, shall be subjected to hardness test (*see 4*). Any needle bar link failing to meet the requirement for hardness shall be considered to be defective.

A-2.2.1 If no defectives are found among the needle bar links subjected to the hardness test (*see A-2.2*), the lot shall be declared as conforming to the requirements of the specification, otherwise not.

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The Indian Standards Institution (ISI), which started functioning in 1947, is the national standards organization for India. Its principal object is to prepare standards on national and International basis and promote their general adoption.

The overall control of ISI, which is run and financed jointly as a non-profit making body by the Government and private enterprise, is exercised by the General Council, composed of representatives of Central and State Governments; leading trade, scientific and technological organizations; and subscribing members. The Union Minister of Industry is the ex-officio President of ISI.

The present technical activity of ISI is carried out through 8 Division Councils for Agricultural and Food Products; Chemical; Civil Engineering; Consumer Products; Electrotechnical; Mechanical Engineering; Structural and Metals; and Textile. All technical work relating to the formulation and revision of standards is done by committees appointed by and under the direction of their respective Division Councils. These committees consist of experts drawn from manufacturing units, technical institutions, purchase organizations and other concerned bodies.

To make available benefits of Indian Standards to the common man, ISI has introduced its Certification Marks Scheme under the *Indian Standards Institution (Certification Marks) Act, 1952*, as amended by the *Amendment Act, 1961*. According to this Act, quality goods conforming to Indian Standards can carry the ISI Certification Mark. This Mark is a third-party guarantee of quality of marked goods. Licences to use the ISI Certification Mark are granted to manufacturers using reliable methods of quality control subject to overall inspection by ISI.

In the international field, ISI represents India on the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). ISO and IEC respectively link 54 and 40 countries, and function through 118 and 58 technical committees; ISI participates in 83 technical committees of ISO and all the technical committees of IEC. The committees and subcommittees of IEC and ISO for which ISI holds the secretariat deal with: Electric Fans, Lac, Mica, Pictorial Markings for Handling of Goods, Liquid Flow Measurements in Open Channels, Procedures for Inter-conversion of Values, Spices and Condiments, and Stimulant Foods.

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INDIAN STANDARDS INSTITUTION

Headquarters

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 1

Telephones 27 36 11 - 29

Telegrams Manaksanstha

Branch Offices

Telegrams Manaksanstha

534 Sardar Vallabhbhai Patel Road	Bombay 7	Telephone	35 70 27
5 Chowringhee Approach	Calcutta 13	..	23- 18 23
Industrial Estate Administrative Building, Sanatnagar	Hyderabad 18	..	3 92 29
117/418 B Sarvodaya Nagar	Kanpur	..	3 76 95
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